

(FILE 'HOME' ENTERED AT 14:41:11 ON 03 JUL 2002)

FILE 'USPATFULL, CAPLUS' ENTERED AT 14:41:52 ON 03 JUL 2002

L1

938 S C(W)GLYCOSIDE

L2

55 S L1 AND PYRIMIDINE

L2 ANSWER 1 OF 55 USPATFULL  
TI Antisense antibacterial method and composition

L2 ANSWER 2 OF 55 USPATFULL  
TI Modified internucleoside linkages (II)

L2 ANSWER 3 OF 55 USPATFULL  
TI Arrays having background features and methods for using the same

L2 ANSWER 4 OF 55 USPATFULL  
TI TECHNIQUES FOR ASSESSING NONSPECIFIC BINDING OF NUCLEIC ACIDS TO SURFACES

L2 ANSWER 5 OF 55 USPATFULL  
TI Enhanced triple-helix and double-helix formation with oligomers containing modified pyrimidines

L2 ANSWER 6 OF 55 USPATFULL  
TI Surface-modified semiconductive and metallic nanoparticles having enhanced dispersibility in aqueous media

L2 ANSWER 7 OF 55 USPATFULL  
TI Loop probe hybridization assay for polynucleotide analysis

L2 ANSWER 8 OF 55 USPATFULL  
TI Methods of using semiconductor nanocrystals in bead-based nucleic acid assays

L2 ANSWER 9 OF 55 USPATFULL  
TI Oligonucleotide-tagged semiconductor nanocrystals for microarray and fluorescence in situ hybridization

L2 ANSWER 10 OF 55 USPATFULL  
TI Immunochromatographic methods for detecting an analyte in a sample which employ semiconductor nanocrystals as detectable labels

L2 ANSWER 11 OF 55 USPATFULL  
TI Microarray methods utilizing semiconductor nanocrystals

L2 ANSWER 12 OF 55 USPATFULL  
TI Method of detecting an analyte in a sample using semiconductor nanocrystals as a detectable label

L2 ANSWER 13 OF 55 USPATFULL  
TI Biological applications of quantum dots

L2 ANSWER 14 OF 55 USPATFULL  
TI Self-assembling polynucleotide delivery system

L2 ANSWER 15 OF 55 USPATFULL  
TI Reduction of nonspecific hybridization by using novel base-pairing schemes

L2 ANSWER 16 OF 55 USPATFULL  
TI DNA-cleaving antitumor agents

L2 ANSWER 17 OF 55 USPATFULL  
TI Method of detecting an analyte in a sample using semiconductor nanocrystals as a detectable label

L2 ANSWER 18 OF 55 USPATFULL

TI OLIGONUCLEOTIDE PROBES BEARING QUENCHABLE FLUORESCENT LABELS, AND  
 METHODS OF USE THEREOF

L2 ANSWER 19 OF 55 USPATFULL  
 TI Enhanced triple-helix and double-helix formation directed by  
 oligonucleotides containing modified pyrimidines

L2 ANSWER 20 OF 55 USPATFULL  
 TI Reduction of nonspecific hybridization by using novel base-pairing  
 schemes

L2 ANSWER 21 OF 55 USPATFULL  
 TI 1-galactose derivatives having a carbon- or nitrogen-containing aglycon  
 linkage

L2 ANSWER 22 OF 55 USPATFULL  
 TI Self-assembling polynucleotide delivery system comprising dendrimer  
 polycations

L2 ANSWER 23 OF 55 USPATFULL  
 TI Cationic oligonucleotides, and related methods of synthesis and use

L2 ANSWER 24 OF 55 USPATFULL  
 TI Self-assembling polynucleotide delivery system comprising dendrimer  
 polycations

L2 ANSWER 25 OF 55 USPATFULL  
 TI Self-assembling polynucleotide delivery method

L2 ANSWER 26 OF 55 USPATFULL  
 TI Oligonucleotide analogs with an amino acid or a modified amino alcohol  
 residue

L2 ANSWER 27 OF 55 USPATFULL  
 TI Self-assembling polynucleotide delivery system

L2 ANSWER 28 OF 55 USPATFULL  
 TI Synthetic triple helix-forming compound precursors

L2 ANSWER 29 OF 55 USPATFULL  
 TI Methods of using oligomers containing modified pyrimidines

L2 ANSWER 30 OF 55 USPATFULL  
 TI Modified internucleoside linkages (II)

L2 ANSWER 31 OF 55 USPATFULL  
 TI Nuclease stable and binding competent oligomers and methods for their  
 use

L2 ANSWER 32 OF 55 USPATFULL  
 TI Reduction of nonspecific hybridization by using novel base-pairing  
 schemes

L2 ANSWER 33 OF 55 USPATFULL  
 TI Oligonucleotides and their analogs capable of passive cell membrane  
 permeation

L2 ANSWER 34 OF 55 USPATFULL  
 TI Aptamers specific for biomolecules and methods of making

L2 ANSWER 35 OF 55 USPATFULL  
 TI Oligonucleotides with inverted polarity

L2 ANSWER 36 OF 55 USPATFULL  
 TI Reduction of nonspecific hybridization by using novel base-pairing schemes

L2 ANSWER 37 OF 55 USPATFULL  
 TI Self-assembling polynucleotide delivery system comprising dendrimer polycations

L2 ANSWER 38 OF 55 USPATFULL  
 TI Enhanced triple-helix and double-helix formation with oligomers containing modified pyrimidines

L2 ANSWER 39 OF 55 USPATFULL  
 TI Oligonucleotide analogs capable of passive cell membrane permeation

L2 ANSWER 40 OF 55 USPATFULL  
 TI Enhanced triple-helix and double-helix formation with oligomers containing modified purines

L2 ANSWER 41 OF 55 USPATFULL  
 TI Oligonucleotides with inverted polarity

L2 ANSWER 42 OF 55 USPATFULL  
 TI Oligonucleotides containing 5-propynyl pyrimidines

L2 ANSWER 43 OF 55 USPATFULL  
 TI Binding competent oligomers containing unsaturated 3',5' and 2',5' linkages

L2 ANSWER 44 OF 55 USPATFULL  
 TI Oligonucleotides with inverted polarity

L2 ANSWER 45 OF 55 USPATFULL  
 TI Fructosyl **C-glycoside** nucleoside analogs

L2 ANSWER 46 OF 55 USPATFULL  
 TI Anti-leukemic beta-glycosyl C-nucleosides

L2 ANSWER 47 OF 55 USPATFULL  
 TI 2,4-Dichloro-5-(.beta.-D-ribofuranosyl) pyrimidines and substituted derivatives

L2 ANSWER 48 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 TI A short synthesis of bicyclic sugar **pyrimidine** nucleosides from C-glycosides

L2 ANSWER 49 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 TI Synthesis of a Novel Coumarin C-Riboside as a Photophysical Probe of Oligonucleotide Dynamics

L2 ANSWER 50 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 TI Fructosyl **C-glycoside** nucleoside analogs prepared via aldol condensation with aldolase catalysts

L2 ANSWER 51 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 TI Nonstandard Hydrogen Bonding in Duplex Oligonucleotides. The Base Pair between an Acceptor-Donor-Donor **Pyrimidine** Analog and a Donor-Acceptor-Acceptor Purine Analog

L2 ANSWER 52 OF 55 CAPLUS COPYRIGHT 2002 ACS  
 TI Metabolic products of microorganisms. 254. Structure of the new

nikkomycins pseudo-Z and pseudo-J

L2 ANSWER 53 OF 55 CAPLUS COPYRIGHT 2002 ACS

TI Studies on binding of toromycin, an antitumor antibiotic, to DNA

L2 ANSWER 54 OF 55 CAPLUS COPYRIGHT 2002 ACS

TI C-Glycosides and C-nucleosides. I. Synthesis of 2,3-O-isopropylidene-  
.alpha.,D-erythrofuransyl C-glycosides and C-nucleosides

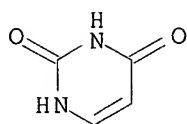
L2 ANSWER 55 OF 55 CAPLUS COPYRIGHT 2002 ACS

TI Synthesis of 2-S-dioxo isosteres of purine and **pyrimidine**  
nucleosides. I. Alkyl and glycosyl derivatives of 3,5-diamino-4H-1,2,6-  
thiadiazine 1,1-dioxide

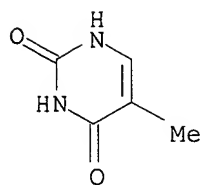
using self-assembling polydiacetylene liposomes  
 INVENTOR(S): Charych, Deborah H.; Jonas, Ulrich  
 PATENT ASSIGNEE(S): Regents of the University of California, USA  
 SOURCE: U.S., 96 pp., Cont.-in-part of U.S. Ser. No. 461,509.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 11  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 6306598	B1	20011023	US 1999-337973	19990621
US 6001556	A	19991214	US 1996-592724	19960126
US 6183772	B1	20010206	US 1996-609312	19960301
US 6022748	A	20000208	US 1997-920501	19970829
US 6080423	A	20000627	US 1997-944257	19971006
US 6180135	B1	20010130	US 1997-944323	19971006
US 6395561	B1	20020528	US 1999-461509	19991214
US 2001026915	A1	20011004	US 2000-734410	20001211
PRIORITY APPLN. INFO.:			US 1992-976697	A2 19921113
			US 1993-159927	A2 19931130
			US 1994-289384	B2 19940811

L4 ANSWER 90032 OF 90446 CAPLUS COPYRIGHT 2002 ACS  
 ACCESSION NUMBER: 1967:92637 CAPLUS  
 DOCUMENT NUMBER: 66:92637  
 TITLE: Utilization of S-triazines by a uracil-dependent strain of *Bacillus subtilus*  
 AUTHOR(S): Ercegovich, Charles D.; Herendeen, N.  
 CORPORATE SOURCE: Pennsylvania State Univ., University Park, Pa., USA  
 SOURCE: Proc. Northeast. Weed Control Conf. (1967), 21, 594-8  
 CODEN: PNWCAY  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB *B. subtilus* growing on minerals salts soln. with 0.2% sucrose could not utilize atrazine (I), aratone (II), ametryne (III), simazine, simetone, simetryne, propazine, promotrone, prometryne, and the methoxy, methylmercapto, and hydroxy (IV) analogs of I in place of uracil. I had a toxic effect when the medium was supplied with uracil, II and III blocked the utilization of uracil, and IV had no effect.  
 IT 66-22-8, biological studies  
 RL: BPR (Biological process); BIOL (Biological study); PROC (Process) (metabolism of, s-triazine derivs. effect on, by *Bacillus subtilus*)  
 RN 66-22-8 CAPLUS  
 CN 2,4(1H,3H)-Pyrimidinedione (9CI) (CA INDEX NAME)



L4 ANSWER 90033 OF 90446 CAPLUS COPYRIGHT 2002 ACS  
 ACCESSION NUMBER: 1967:92592 CAPLUS  
 DOCUMENT NUMBER: 66:92592  
 TITLE: Base composition of rapidly-labeled RNA in *Escherichia coli* undergoing thymineless death  
 AUTHOR(S): Sicard, Nicole; Simonnet, G. M.; Astrachan, Lazarus  
 CORPORATE SOURCE: Inst. Natl. Sci. Tech. Nucl., Saclay, Fr.  
 SOURCE: Biochem. Biophys. Res. Commun. (1967), 26(5), 532-8  
 CODEN: BBRCAY  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB *E. coli* K-12 T-arg-B1- viability was reduced by 50% when incubated in culture medium without thymine (I) for 2 hrs. The cells were labeled with <sup>32</sup>P at the end of the incubation period. RNA nucleotides were sepd. from normal and I-starved cultures. The radioactivity of each nucleotide was smaller in the absence of I, indicating that messenger RNA was depressed. No significant differences were found between the base compns. of newly-formed RNA in bacteria grown in the presence or in the absence of I. The base compn. of total RNA did not vary markedly. RNA formed during I starvation was not abnormal within the limits of the method. During sucrose gradient centrifugation, the distribution of radioactivity in rapidlylabeled RNA was identical in the presence or in the absence of I.  
 IT 65-71-4  
 RL: BIOL (Biological study) (messenger ribonucleic acids formation by *Escherichia coli* deficient in, base compn. in relation to)  
 RN 65-71-4 CAPLUS  
 CN 2,4(1H,3H)-Pyrimidinedione, 5-methyl- (9CI) (CA INDEX NAME)



L4 ANSWER 90034 OF 90446 CAPLUS COPYRIGHT 2002 ACS  
 ACCESSION NUMBER: 1967:92462 CAPLUS  
 DOCUMENT NUMBER: 66:92462  
 TITLE: Effects of some auxins on the levels of phosphate esters in *Avena sativa* coleoptile sections  
 AUTHOR(S): Trewavas, Anthony J.; Johnston, Irving Richardson; Crook, Eric M.  
 CORPORATE SOURCE: Univ. Coll., London, Engl.  
 SOURCE: Biochim. Biophys. Acta (1967), 136(2), 301-11  
 CODEN: BBACAQ  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB The investigation was initiated to study some of the changes in phosphate esters produced by auxins. Using <sup>32</sup>P-labeled inorg. phosphate it was observed that after 2 hrs. incubation of *A. sativa* coleoptile sections in growth-promoting concns. of indole-3-acetic (I) acid, the ATP-to-ADP ratio was depressed; this response was considerably diminished after 4-6 hrs. incubation in the auxin. The depression of the ATP-to-ADP ratio was reduced if the coleoptile sections were preincubated in sucrose. Closer analyses of the time course indicated that the depression of the ATP-to-ADP ratio was detectable 5 min. after adding I. 1-Naphthalacetic acid (II) and 2,4-dichlorophenoxyacetic acid (III) appear to initiate similar falls in the ATP-to-ADP ratio. I increases the labeling of UDP-glucose and decreases that of the hexose phosphates. II invoked a contrary response in the levels of these 2 compds., while III had no detectable effect on either of these 2 compds. Short-term expts. indicated that the changes in labeling of UDP-glucose and hexose phosphates are detectable 10 min. after adding I or II, continue for several hrs., and then approach control values. It is shown that growth-promoting concns. of I, II, and III increase the rate of incorporation of both <sup>32</sup>P and orotic acid-6-<sup>14</sup>C into RNA of *A. sativa* coleoptile sections, the time course of this response being similar to that of the above-mentioned changes. 18 references.

IT 133-89-1, biological studies

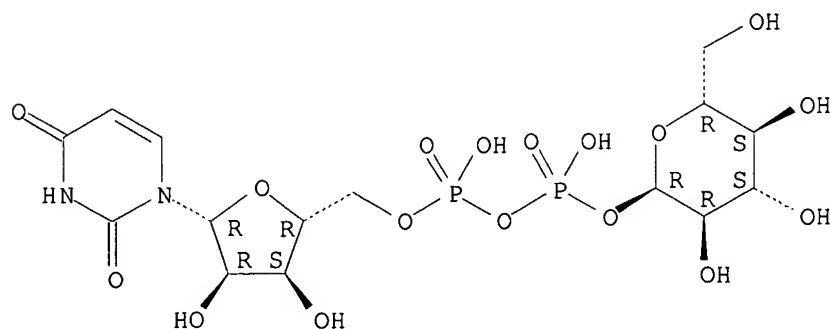
RL: FORM (Formation, nonpreparative)

(formation of, by oat coleoptiles, effect of auxins on)

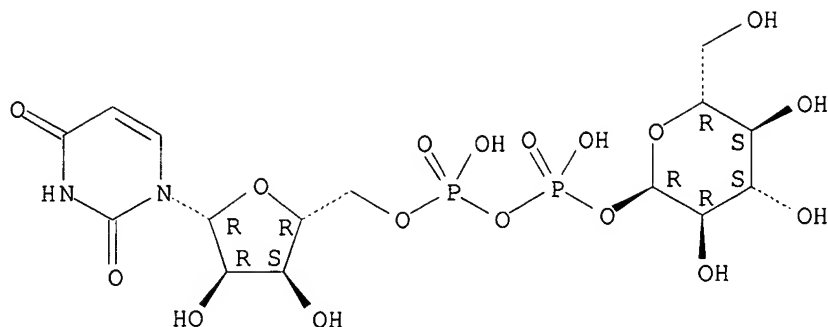
RN 133-89-1 CAPLUS

CN Uridine 5'-(trihydrogen diphosphate), P'-.alpha.-D-glucopyranosyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

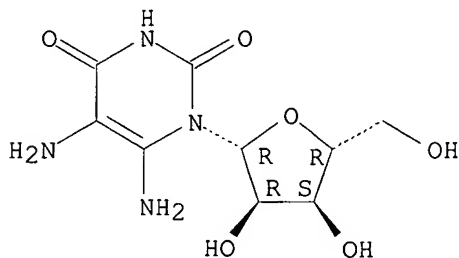






L4 ANSWER 90035 OF 90446 CAPLUS COPYRIGHT 2002 ACS  
 ACCESSION NUMBER: 1967:92372 CAPLUS  
 DOCUMENT NUMBER: 66:92372  
 TITLE: Presence of 4,5-diaminouridine bound to an amino acid  
 in etiolated pea seedlings  
 AUTHOR(S): Van Parijs, R.; Lambein, F.  
 CORPORATE SOURCE: Univ. Ghent, Ghent, Belg.  
 SOURCE: Arch. Int. Physiol. Biochim. (1965), 73, 534-5  
 From: CZ 1966, (33), Abstr. No. 1294  
 CODEN: AIPBAY  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB 4,5-Diaminouridine was bound to the 5-amino group of an amino acid  
 (presumably homoserine) in pea seedlings. At pH 2, the complex had an  
 absorption max. at 265 and a min. at 210 and 240 m.mu.. Alk. soln.  
 destroyed the complex, and it underwent photolysis by exposure to uv.  
 IT **15486-22-3**  
 RL: BIOL (Biological study)  
 (in pea seedlings)  
 RN 15486-22-3 CAPLUS  
 CN Uridine, 5,6-diamino- (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



L4 ANSWER 90036 OF 90446 CAPLUS COPYRIGHT 2002 ACS  
 ACCESSION NUMBER: 1967:92014 CAPLUS  
 DOCUMENT NUMBER: 66:92014  
 TITLE: Ultrastructural variations in neurons of sympathetic  
 chain ganglia in rats treated with hypophysial  
 thyrotropic hormone, thyroxine, or  
 4-methyl-2-thiouracil  
 AUTHOR(S): Atech, Y. L.; Turchini, H.  
 CORPORATE SOURCE: Fac. Med., Montpellier, Fr.  
 SOURCE: C. R. Seances Soc. Biol. Ses Fil. (1966), 160(8-9),  
 1621-3  
 CODEN: CRSBAW  
 DOCUMENT TYPE: Journal

LANGUAGE: French

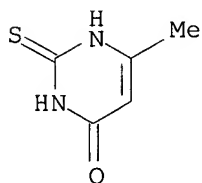
AB I.m. injection of increasing doses of thyrotropic hormone (3-10 units/day for 15 days) initially caused cytoplasmic damage to the neurons of the sympathetic ganglia of rats; mitochondrial degeneration occurred by the 6th day of treatment followed by the appearance of cytoplasmic vesicles and pores in the nuclear membrane, a redn. of Nissl bodies, and the disappearance of neurofilaments by the 11th day. Oral administration of 400 mg. 4-methyl-2-thiouracil/kg./day for 21 days to rats produced many cytoplasmic vesicles; caused a clumping of Nissl bodies around the vesicles; reduced the size of the mitochondria; caused increased definition of the neuro-filaments; and produced deep invagination of the nuclear membrane. An addnl. 9 days of treatment caused a disappearance of the nucleolus, hypertrophy of mitochondria surrounding the nucleus, and a breakdown of cytoplasmic structure often accompanied by nuclear degeneration. Administration of thyroxine (2 mg./day for 7-15 days) initially caused mitochondrial hypertrophy and the aggregation of Nissl bodies towards the cell center; by the end of the treatment the mitochondria were small and the nuclear membrane thickened.

IT 56-04-2

RL: BIOL (Biological study)  
(nerve structure response to)

RN 56-04-2 CAPLUS

CN 4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo- (9CI) (CA INDEX NAME)



L4 ANSWER 90037 OF 90446 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1967:91927 CAPLUS

DOCUMENT NUMBER: 66:91927

TITLE: Effects of 5-trifluoromethyldeoxyuridine upon deoxythymidine kinase

AUTHOR(S): Bresnick, Edward; Williams, Sara S.

CORPORATE SOURCE: Dep. of Pharmacol., Baylor Univ., Coll. of Med., Houston, Tex., USA

SOURCE: Biochem. Pharmacol. (1967), 16(3), 503-7

CODEN: BCPCA6

DOCUMENT TYPE: Journal

LANGUAGE: English

AB 5-Trifluoromethyl-2'-deoxyuridine (I) can be phosphorylated by deoxythymidine (II) kinase as easily as can the normal substrate, II, or the pyrimidine analog, 5-bromodeoxyuridine. I inhibited the formation of thymidine monophosphate (d-TMP) from II. With 5.0 millimicromoles II in the incubation system, the 50% inhibitory concn. of II was 10 millimicromoles. The Michaelis const., Km, and the inhibition const., Ki, for II and for I were calcd. to be 3.3 .times. 10<sup>-6</sup> and 3.7 .times. 10<sup>-6</sup>M. The inhibition of d-TMP formation by I was also a complex function of the ATP concn. 19 references.

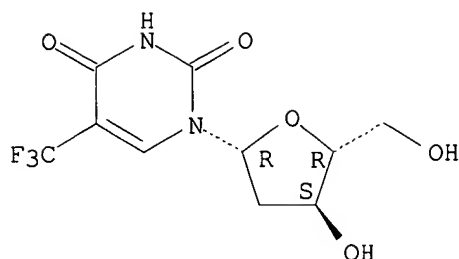
IT 70-00-8

RL: BIOL (Biological study)  
(as thymine kinase substrate)

RN 70-00-8 CAPLUS

CN Thymidine, .alpha.,.alpha.,.alpha.-trifluoro- (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.

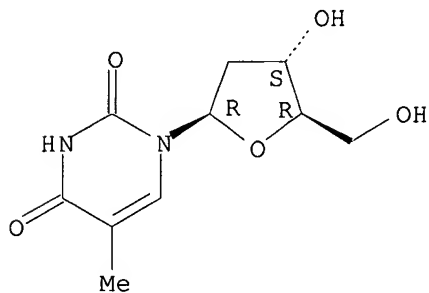


L4 ANSWER 90038 OF 90446 CAPLUS COPYRIGHT 2002 ACS  
 ACCESSION NUMBER: 1967:91879 CAPLUS  
 DOCUMENT NUMBER: 66:91879  
 TITLE: Properties of uridine and thymidine phosphorylating enzymes of Zea mays  
 AUTHOR(S): Wanka, Friedrich  
 CORPORATE SOURCE: Univ. Nijmegen, Nijmegen, Neth.  
 SOURCE: Z. Naturforsch., B: Anorg. Chem., Org. Chem., Biochem., Biophys., Biol. (1967), 22(1), 91-6  
 CODEN: ZENBAX  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB Two uridine phosphorylating enzymes were found during germination of Z. mays, only one of which was active in vitro during the initial 48 hrs. of germination. This early appearing enzyme had a mol. wt. of 600,000 and was less heat stable (inactivated at 40.degree.) than the 2nd enzyme (inactivated at 60.degree.), which became active after 48 hrs. of germination. The second enzyme had a mol. wt. of 5-6 .times. 10<sup>4</sup> and was identical with thymidine kinase; gel-filtration studies on Sephadex G-200 showed that it consisted of 2 components of equal mol. size, each of which was slightly smaller than bovine serum albumin. Both of these components were inactivated at temps. above 55.degree., but component T was somewhat more stable than component P. The latter was present in small amts. during early germination stages. Competitive inhibition of thymidine phosphorylation by uridine and uridine phosphorylation by thymidine occurred, the K<sub>m</sub> values for thymidine and uridine being equal to the resp. K<sub>i</sub> values with similar turnover nos. for both reactions.

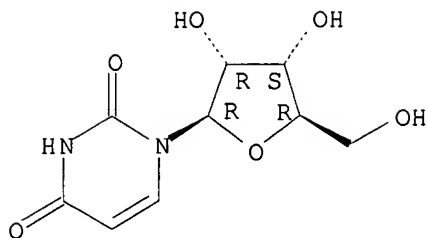
IT 50-89-5, biological studies 58-96-8  
 RL: BIOL (Biological study)  
 (phosphorylation by corn, enzymes in)  
 RN 50-89-5 CAPLUS  
 CN Thymidine (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



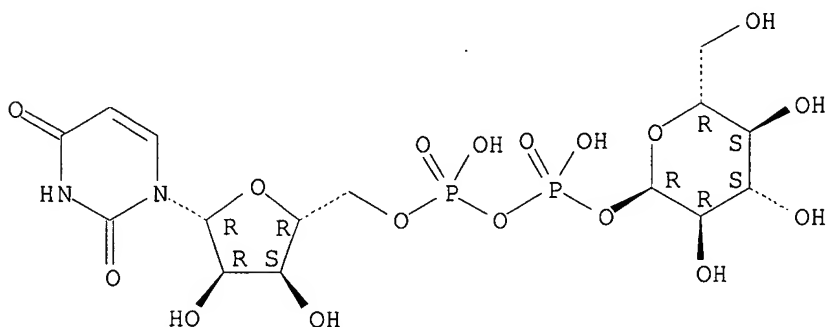
RN 58-96-8 CAPLUS  
 CN Uridine (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



L4 ANSWER 90039 OF 90446 CAPLUS COPYRIGHT 2002 ACS  
 ACCESSION NUMBER: 1967:91760 CAPLUS  
 DOCUMENT NUMBER: 66:91760  
 TITLE: Hypothesis of the mode of conversion of glucose into  
 .alpha.-glucose 1-phosphate  
 AUTHOR(S): Smith, Eric Ernest; Taylor, Pamela M.; Whelan, William  
 J.  
 CORPORATE SOURCE: Roy. Free Hosp. Sch. Med., London, Engl.  
 SOURCE: Nature (London) (1967), 213(5077), 733-4  
 CODEN: NATUAS  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB Hexokinase, glucokinase, glucose-6-phosphatase, and phosphoglucomutase may  
 well have no role in the conversion of glucose to glycogen. The action of  
 2 enzymes already known in muscle, .alpha.-glucose-1-phosphate kinase and  
 .alpha.-glucose-1-phosphate and dismutase, may play a role in conversion  
 of glucose to .alpha.-glucose 1-phosphate which is in turn incorporated  
 into glycogen via UDP-glucose.  
 IT 133-89-1  
 RL: BIOL (Biological study)  
 (in glycogen formation from .alpha.-glucose-1-phosphate, enzymes for)  
 RN 133-89-1 CAPLUS  
 CN Uridine 5'-(trihydrogen diphosphate), P'-.alpha.-D-glucopyranosyl ester  
 (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L4 ANSWER 90040 OF 90446 CAPLUS COPYRIGHT 2002 ACS  
 ACCESSION NUMBER: 1967:91736 CAPLUS  
 DOCUMENT NUMBER: 66:91736  
 TITLE: Coding properties of some triribonucleoside  
 diphosphates containing inosine  
 AUTHOR(S): Gruenberger, Dezider; Holy, Antonin; Sorm, Frantisek  
 CORPORATE SOURCE: Ceskoslov. Akad. Ved., Prague, Czech.  
 SOURCE: Biochim. Biophys. Acta (1967), 134(2), 484-6  
 CODEN: BBACAQ

DOCUMENT TYPE: Journal  
LANGUAGE: English

AB The coding properties of triribonucleoside diphosphates containing inosinic acid in the 5'- or 3'-terminal position and their effects on the binding of specific aminoacyl-tRNA to ribosomes were studied. IpUpU, derived by substitution of inosinic acid for guanylic acid in the 5'-terminal position of GpUpU (valine codon), did not stimulate the binding of valyl-tRNA to ribosomes. Inosinic acid in the IpUpU triplet could not be recognized by either isoleucyl-tRNA or phenylalanyl-tRNA. Likewise, the substitution of inosinic acid for guanylic acid in the 5'-terminal position of GpUpG (the other valine codon) resulted in a complete loss of the binding ability, but GpUpI, derived by substitution in the 3'-terminal position, stimulated the binding of valyl-tRNA to ribosomes. However, the efficiency of GpUpI at equimolar concentrations was about half that of GpUpG. Therefore, inosinic acid cannot substitute for guanylic acid in the GpUpU codon for valine, while it can replace guanylic acid in the codon GpUpG only in the 3'-terminal position and thus complement with other bases, according to Crick's hypothesis.

IT 13064-09-0

RL: BIOL (Biological study)

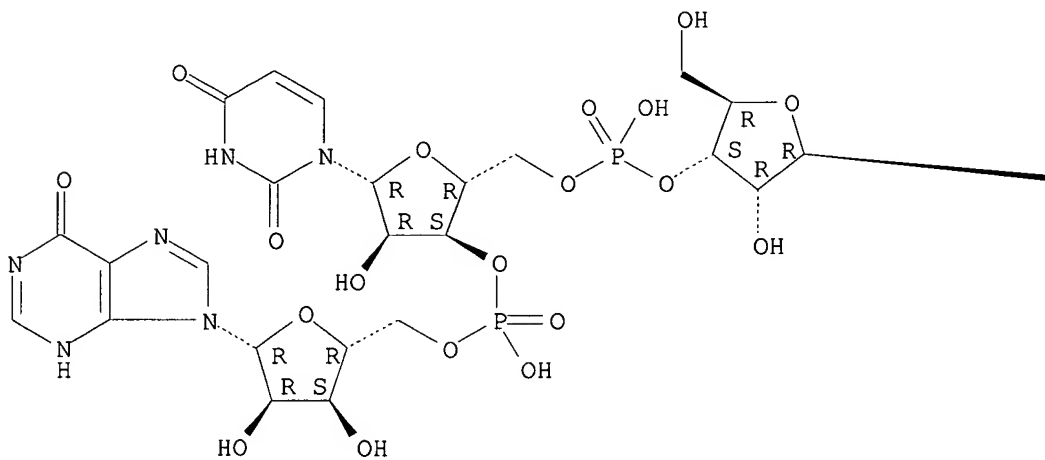
(as codon for valine specific ribonucleic acid)

RN 13064-09-0 CAPLUS

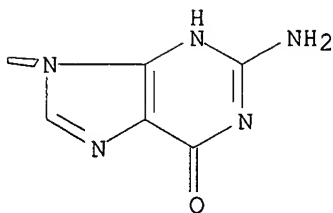
CN Inosine, guanylyl-(3'.fwdarw.5')-uridylyl-(3'.fwdarw.5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

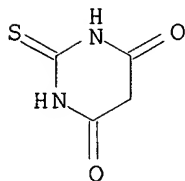
PAGE 1-A



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L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2002 ACS  
 RN 504-17-6 REGISTRY  
 CN 4,6(1H,5H)-Pyrimidinedione, dihydro-2-thioxo- (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN Barbituric acid, 2-thio- (8CI)  
 OTHER NAMES:  
 CN 2-Mercapto-4,6-dihydroxypyrimidine  
 CN 2-Mercaptobarbituric acid  
 CN 2-Mercaptopyrimidine-4,6-diol  
 CN 2-Thio-4,6-dioxypyrimidine  
 CN 2-Thiobarbituric acid  
 CN 4,6-Dihydroxy-2-mercaptopyrimidine  
 CN Austranal  
 CN Bathyrane  
 CN **Thiobarbituric acid**  
 FS 3D CONCORD  
 DR 127726-79-8, 121477-82-5, 122508-78-5, 126660-87-5, 124558-04-9,  
 136771-68-1, 145783-11-5, 148021-12-9, 91759-32-9, 5525-79-1, 5658-01-5,  
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 CI COM  
 LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN\*, BIOBUSINESS, BIOSIS,  
 BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CHEMCATS,  
 CHEMINFORMRX, CHEMLIST, CIN, CSChem, DDFU, DETHERM\*, DRUGU, EMBASE,  
 GMELIN\*, HODOC\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MSDS-OHS,  
 NIOSHTIC, PIRA, PROMT, RTECS\*, SPECINFO, SYNTHLINE, TOXCENTER, USPAT2,  
 USPATFULL  
 (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1154 REFERENCES IN FILE CA (1967 TO DATE)  
 96 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 1157 REFERENCES IN FILE CAPLUS (1967 TO DATE)  
 24 REFERENCES IN FILE CAOLD (PRIOR TO 1967)